

Amendments to the Claims

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended) An isolated nucleic acid comprising ~~any one of SEQ ID NOs: 1-4 and 9-126,~~
or of SEQ ID NO: 1 or a complementary nucleotide sequence.
2. Canceled.
3. (Currently amended) An isolated nucleic acid comprising at least ~~80% nucleotide identity~~ 90%
nucleotide identity with a nucleic acid comprising ~~any one of SEQ ID NOs: 1-4 and 9-126, or of~~
SEQ ID NO: 1 or a complementary nucleotide sequence.
4. (Currently amended) The isolated nucleic acid according to claim 3, wherein the nucleic acid has
~~85%, 90%, 95%, or 98% nucleotide identity with the nucleic acid comprising any one of SEQ ID~~
~~NOs: 1-4 and 9-126, or of~~ SEQ ID NO: 1 or a complementary nucleotide sequence.
5. (Currently amended) An isolated nucleic acid that hybridizes under high stringency conditions
~~with over at least 90% of the length of a nucleic acid comprising any one of SEQ ID NOs: 1-4 and 9-~~
~~126, or of~~ SEQ ID NO: 1 or a complementary nucleotide sequence.
6. (Currently amended) An isolated nucleic acid comprising a nucleotide sequence as depicted in ~~any~~
~~one of SEQ ID NOs: 1-4 and 9-126, or of~~ SEQ ID NO: 1 or a complementary nucleotide sequence.
7. (Withdrawn) A nucleotide probe or primer specific for any one of ABCA5, ABCA6, ABCA9, and
ABCA10 genes, wherein the nucleotide probe or primer comprises at least 15 consecutive
nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4 and 9-126 or of a
complementary nucleotide sequence.
8. (Withdrawn) A nucleotide probe or primer specific for an ABCA5 gene, wherein the nucleotide
probe or primer comprises a nucleotide sequence of any one of SEQ ID NOS:127-144 or a
complementary nucleotide sequence.

9. (Withdrawn) A nucleotide probe or primer specific for an ABCA6 gene, wherein the nucleotide probe or primer comprises a nucleotide sequence of any one of SEQ ID NOs: 145-172, or of a complementary nucleotide sequence.
10. (Withdrawn) A nucleotide probe or primer specific for an ABCA9 gene, wherein the nucleotide probe or primer comprises a nucleotide sequence of any one of SEQ ID NOs: 173-203, or of a complementary nucleotide sequence.
11. (Withdrawn) A nucleotide probe or primer specific for an ABCA10 gene, wherein the nucleotide probe or primer comprises a nucleotide sequence of any one of SEQ ID NOs: 204-217 or of a complementary nucleotide sequence.
12. (Withdrawn) A method of amplifying a region of the nucleic acid according to claim 1, wherein the method comprises: a) contacting the nucleic acid with two nucleotide primers, wherein the first nucleotide primer hybridizes at a position 5' of the region of the nucleic acid, and the second nucleotide primer hybridizes at a position 3' of the region of the nucleic acid, in the presence of reagents necessary for an amplification reaction; and b) detecting the amplified nucleic acid region.
13. (Withdrawn) A method of amplifying a region of the nucleic acid according to claim 12, wherein the two nucleotide primers are selected from the group consisting of a) a nucleotide primer comprising at least 15 consecutive nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4 and 9-126 or of a complementary nucleotide sequence; b) a nucleotide primer according to claim 7; c) a nucleotide primer comprising a nucleotide sequence of any one of SEQ ID NOs: 127-217, or a nucleic acid having a complementary sequence.
14. (Withdrawn) A kit for amplifying the nucleic acid according to claim 1, wherein the kit comprises: a) two nucleotide primers whose hybridization position is located respectively 5' and 3' of the region of the nucleic acid; and, optionally, b) reagents necessary for an amplification reaction.
15. (Withdrawn) The kit according to claim 14, wherein the two nucleotide primers are selected from the group consisting of a) a nucleotide primer comprising at least 15 consecutive nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4 and 9-126, or of a complementary nucleotide sequence; b) nucleotide primer according to claim 7; c) nucleotide primer comprising a nucleotide sequence of any one of SEQ ID NOs: 127-217, or a nucleic acid having a complementary sequence.

16. (Withdrawn) The nucleotide probe or primer according to claim 7, wherein the nucleotide probe or primer comprises a marker compound.

17. (Withdrawn) A method of detecting a nucleic acid according to claim 1, wherein the method comprises: a) contacting the nucleic acid with a nucleotide probe selected from the group consisting of 1) a nucleotide probe comprising at least 15 consecutive nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4 and 9-126, or of a complementary nucleotide sequence; 2) a nucleotide primer according to claim 7; 3) a nucleotide probe comprising a nucleotide sequence of any one of SEQ ID NOs: 127-217, or of a complementary nucleotide sequence; and b) detecting a complex formed between the nucleic acid and the probe.

18. (Withdrawn) The method of detection according to claim 17, wherein the probe is immobilized on a support.

19. (Withdrawn) A kit for detecting the nucleic acid according to claim 1, wherein the kit comprises a) a nucleotide probe selected from the group consisting of 1) a nucleotide probe comprising at least 15 consecutive nucleotides of a nucleotide sequence of any one of SEQ ID NOs: 1-4 and 9-126, or of a complementary nucleotide sequence; 2) a nucleotide primer according to claim 7; and 3) a nucleotide probe comprising a nucleotide sequence of any one of SEQ ID NOs: 127-217, or of a complementary nucleotide sequence, and, optionally, b) reagents necessary for a hybridization reaction.

20. (Withdrawn) The kit according to claim 19, wherein the probe is immobilized on a support.

21. (Original) A recombinant vector comprising the nucleic acid according claim 1.

22. (Original) The vector according to claim 21, wherein the vector is an adenovirus.

23. (Original) A recombinant host cell comprising the recombinant vector according to claim 21.

24. (Original) A recombinant host cell comprising the nucleic acid according claim 1.

25. (Withdrawn) An isolated nucleic acid encoding a polypeptide comprising an amino acid sequence of any one of SEQ ID NOS: 5-8.

26. (Withdrawn) A recombinant vector comprising the nucleic acid according to claim 25.
27. (Withdrawn) A recombinant host cell comprising the nucleic acid according to claim 25.
28. (Withdrawn) A recombinant host cell comprising the recombinant vector according to claim 26.
29. (Withdrawn) An isolated polypeptide selected from the group consisting of a) a polypeptide comprising an amino acid sequence of any one of SEQ ID NOS: 5-8; b) a polypeptide fragment or variant of a polypeptide comprising an amino acid sequence of any one of SEQ ID NOS: 5-8; and c) a polypeptide homologous to a polypeptide comprising amino acid sequence of any one of SEQ ID NOS: 5-8.
30. (Withdrawn) An antibody directed against the isolated polypeptide according to claim 29.
31. (Withdrawn) The antibody according to claim 30, wherein the antibody comprises a detectable compound.
32. (Withdrawn) A method of detecting a polypeptide, wherein the method comprises a) contacting the polypeptide with an antibody according to claim 31; and b) detecting an antigen/antibody complex formed between the polypeptide and the antibody.
33. (Withdrawn) A diagnostic kit for detecting a polypeptide, wherein the kit comprises a) the antibody according to claim 31; and b) a reagent allowing detection of an antigen/antibody complex formed between the polypeptide and the antibody.
34. (Original) A composition comprising the nucleic acid according to claim 1 and a physiologically-compatible excipient.
35. (Original) A composition comprising the recombinant vector according to claim 21 and a physiologically-compatible excipient.
36. (Withdrawn) Use of the nucleic acid according to claim 1 for the manufacture of a medicament intended for the prevention and/or treatment of a subject affected by a dysfunction in the reverse transport of cholesterol.

37. (Withdrawn) Use of a recombinant vector according to claim 21 for the manufacture of a medicament for the prevention and/or treatment of subjects affected by a dysfunction in the lipophilic substance transport.

38. (Withdrawn) Use of any one of isolated ABCA5, ABCA6, ABCA9, and ABCA10 polypeptides comprising an amino acid sequence of SEQ ID NOS: 5-8 for the manufacture of a medicament intended for the prevention and/or treatment of subjects affected by a dysfunction in the lipophilic substance transport.

39. (Withdrawn) A composition comprising a polypeptide comprising an amino acid sequence of any one of SEQ ID NOS: 5-8, and a physiologically-compatible excipient.

40. (Withdrawn) Use of any one of isolated ABCA5, ABCA6, ABCA9, and ABCA10 polypeptides comprising an amino acid sequence of any one of SEQ ID NOS: 5-8 for screening an active ingredient for the prevention or treatment of a disease resulting from a dysfunction in the lipophilic substance transport.

41. (Withdrawn) Use of a recombinant host cell expressing any one of the ABCA5, ABCA6, ABCA9, and ABCA10 polypeptides comprising an amino acid sequence of SEQ ID NOS: 5-8 for screening an active ingredient for the prevention or treatment of a disease resulting from a dysfunction in the lipophilic substance transport.

42. (Withdrawn) A method of screening a compound active on cholesterol metabolism, an agonist, or an antagonist of any one of the ABCA5, ABCA6, ABCA9, and ABCA10 polypeptides, wherein the method comprises a) preparing a membrane vesicle comprising at least one of the ABCA5, ABCA6, ABCA9, and ABCA10 polypeptides and a lipid substrate comprising a detectable marker; b) incubating the vesicle obtained in step a) with an agonist or antagonist candidate compound; c) qualitatively and/or quantitatively measuring a release of the lipid substrate comprising the detectable marker; and d) comparing the release of the lipid substrate measured in step b) with a measurement of a release of a labeled lipid substrate by a membrane vesicle that has not been previously incubated with the agonist or antagonist candidate compound.

43. (Withdrawn) A method of screening a compound active on cholesterol metabolism, an agonist, or an antagonist of any one of ABCA5, ABCA6, ABCA9, and ABCA10 polypeptides, wherein the method comprises a) incubating a cell that expresses at least one of the ABCA5, ABCA6, ABCA9,

and ABCA10 polypeptides with an anion labeled with a detectable marker; b) washing the cell of step a) whereby excess labeled anion that has not penetrated into the cell is removed; c) incubating the cell obtained in step b) with an agonist or antagonist candidate compound for any one of the ABCA5, ABCA6, ABCA9, and ABCA10 polypeptide; d) measuring efflux of the labeled anion from the cell; and e) comparing the efflux of the labeled anion determined in step d) with efflux of a labeled anion measured with a cell that has not been previously incubated with the agonist or antagonist candidate compound.

44. (Original) An implant comprising the recombinant host cell according to claim 23.

45. (Previously presented) A cluster of genes on chromosome 17q24, wherein the cluster comprises the genes ABCA5, ABCA6, ABCA9 and ABCA10.